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**Specifications for VHF Direction Finder Equipment
for Aircraft Use**

6 Apr 53

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1. By letter dated 6 Apr 53 our Bombay distributor, Eastern Electric and Engineering Co, informed us of an enquiry for VHF aerial direction finder equipment. The letter did not identify the interested source of the requirement. Given below are the specifications for the desired equipment (which we are in no position to supply) as contained in an attachment to the letter.

VHF Direction Finder

VHF direction finder equipment capable of giving sensed bearing to any aircraft transmitting on a given frequency in the band of 116 to 132 mc on a line of sight path of 100 miles is required. The bearings provided should be instantaneous and provide a continuous indication of the direction of the arrival of any signal received from an aircraft. The bearings required should be indicated automatically without ambiguity by means of a single radial trace on a cathod-ray tube or by a bearing indicator meter.

General Requirements

a. The equipment shall be suitable for installation in airport terminal or building. In some cases the antenna tower will be required to be mounted on the roof of the control tower building and the main DF equipment to be installed in the building. In some cases, the main equipment will be installed away from the station in a small isolated building on an open site, in which case master remote indicators or "slave" indicators will also be required. The remote indication is to be provided over a pair of telephone lines.

b. High safety factor shall be provided in all components so as to ensure against either overheating or breakdown.

c. The equipment shall be suitable for working in the temperature range of 10 to 60 °C with relative humidity of 95%.

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d. Complete tropicalization and impregnation of components is essential so that the equipment can operate under adverse weather conditions. Provision shall be made for fungus-proofing of all components.

Technical Specifications

- a. Frequency: Any spot frequency in the range 118 to 132 mc
- b. Frequency stability: $\pm .005\%$
- c. Audio-frequency response: 250 to 4,000 cycles $\pm .3db$
- d. Power supply: 200-250 volts 50 cycles - AC mains
- e. Bearings accuracy: An over all accuracy of \pm three degrees for line of sight paths from normal aircraft transmitters up to 100 miles.

-end-

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